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CATSKILL AREA PROJECT IN SMALL SCHOOL DESIGN.
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CHARACTERISTICS OF THE SMALL SCHOOL, AS PROPOSED BY THE PROJECT, ARE LISTED. FIVE AREAS OF SCHOOL OPERATION ARE DISCUSSED IN DETAIL--(1) MULTIPLE CLASSES, INCLUDING SUPERVISED CORRESPONDENCE COURSES, (2) FLEXIBLE SCHEDULES, (3) USE OF SCHOOL AIDES, (4) USES OF ELECTRONIC COMMUNICATION, AND (5) SHARED SERVICES AND TALENTED YOUTH. A MAP LOCATING THE 22 CENTRAL SCHOOLS PARTICIPATING IN THE PROJECT AND A BRIEF OUTLINE OF GOALS FOR THE DEVELOPMENT OF SMALL SCHOOL OPERATION ARE INCLUDED. THIS DOCUMENT IS ALSO AVAILABLE FROM THE CATSKILL AREA PROJECT IN SMALL SCHOOL DESIGN, STATE UNIVERSITY COLLEGE OF EDUCATION, ONEONTA, NEW YORK, FOR $0.50. (FS)

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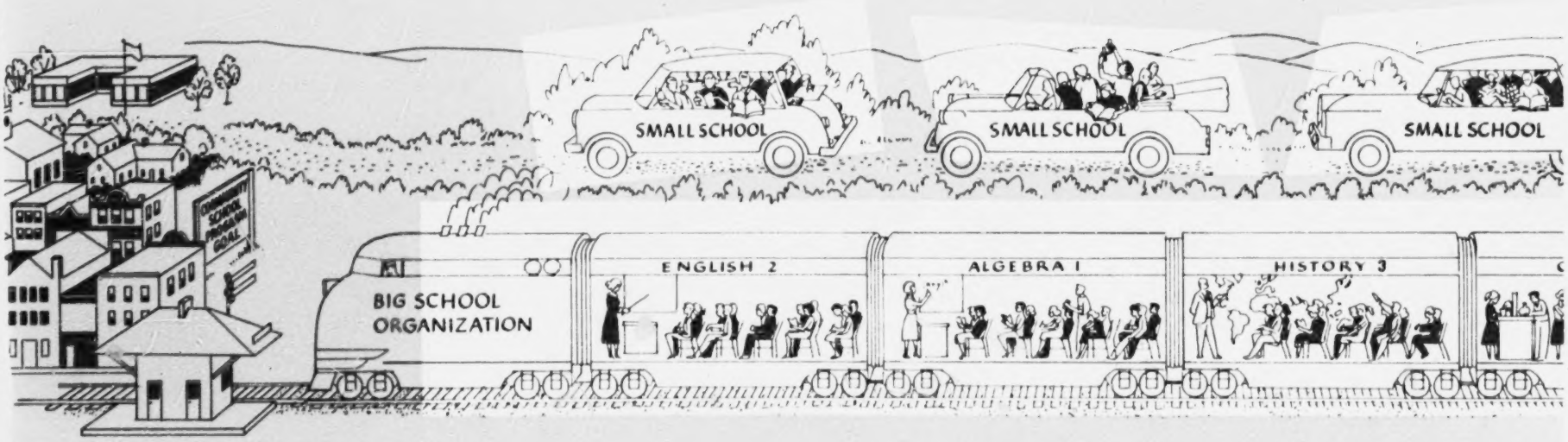

RC 000 252

The Catskill Area Project in Small School Design (CAPSSD), established in 1957 and financed by a grant from the Ford Fund for the Advancement of Education, is searching for theory and techniques that will improve the variety and quality of education in rural secondary schools. Its program has been conceived and developed through the cooperative efforts of administrators and teachers in 22 central schools in New York's upper Catskill Mountain region. It is staffed by a team of specialists in rural education drawn from the State University Teachers College, Oneonta, New York, and other institutions. CAPSSD is, however, completely autonomous and is directed by an executive committee of administrators from the participating central schools. Its headquarters are 215 Home Economics Building, SUTC, Oneonta, New York.

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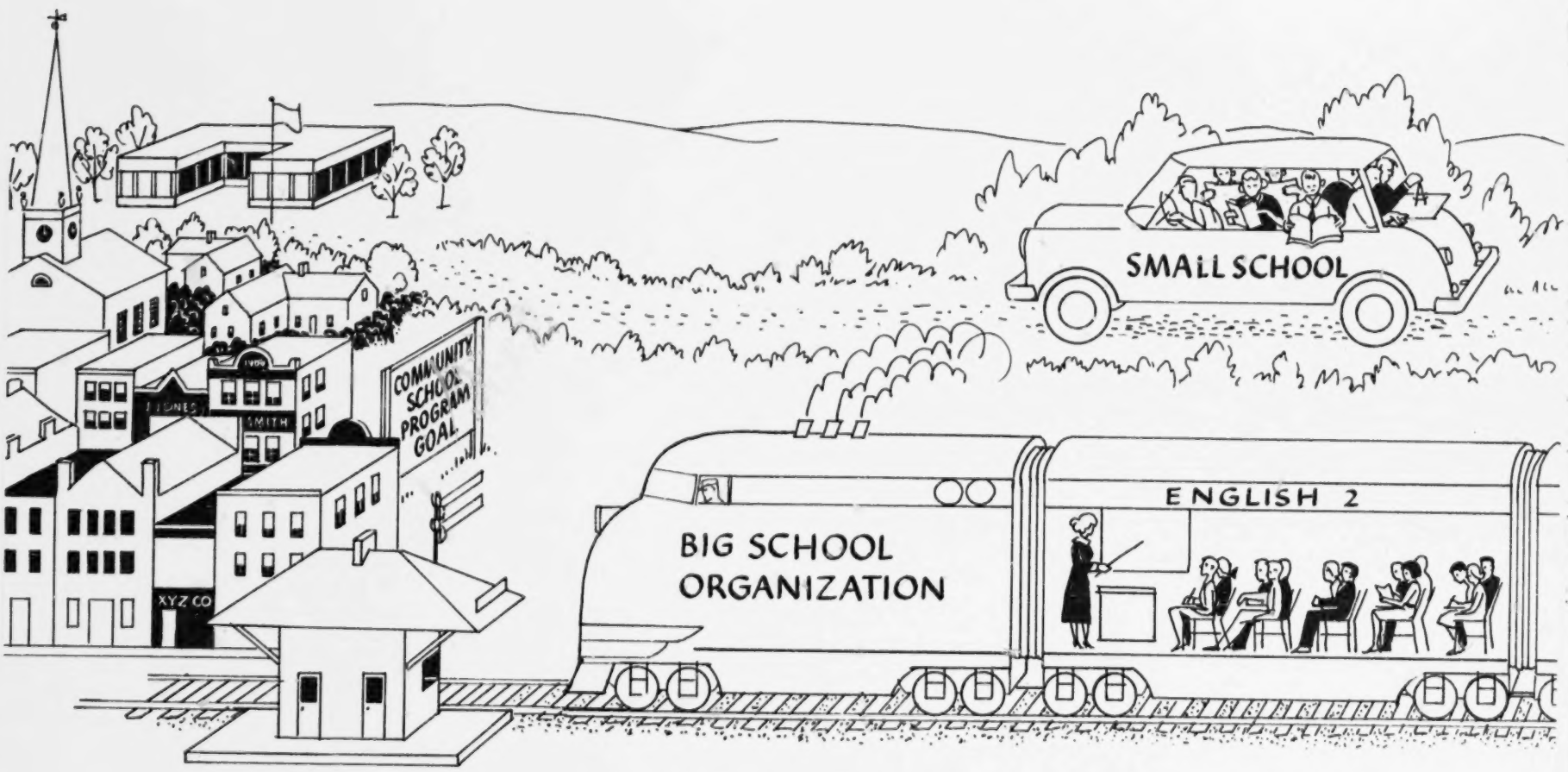
CHARACTERISTICS OF THE SMALL SCHOOL

A big school, like a railroad train, is designed on the principle of specialization. The train is a series of specialized units — locomotive, baggage car, express car, day coaches, diner, parlor car, sleeping car — loosely coupled together. It's the best design so far discovered to transport several hundreds of people at one time from one large city to another. A big school is a series of specialized units, too. The elementary pupils are segregated by age; the secondary pupils are segregated according to specialized subjects taught in classes of 20 to 40 students. There all pupils study the same subject under the same teacher at the same time. The large school is built, with this specialization in mind, as a series of specialized units. Teachers are trained and certified according to this same principle of standardized "subjects" taught.

Adherence to this principle of teaching specialization leads some educators to advocate high schools of no fewer than 1,000 students as being necessary for efficient operation. This may be true so long as the principle of specialization determines the design of the school.

Small school design, however, can no more be patterned on large school design than an automobile can be pat-



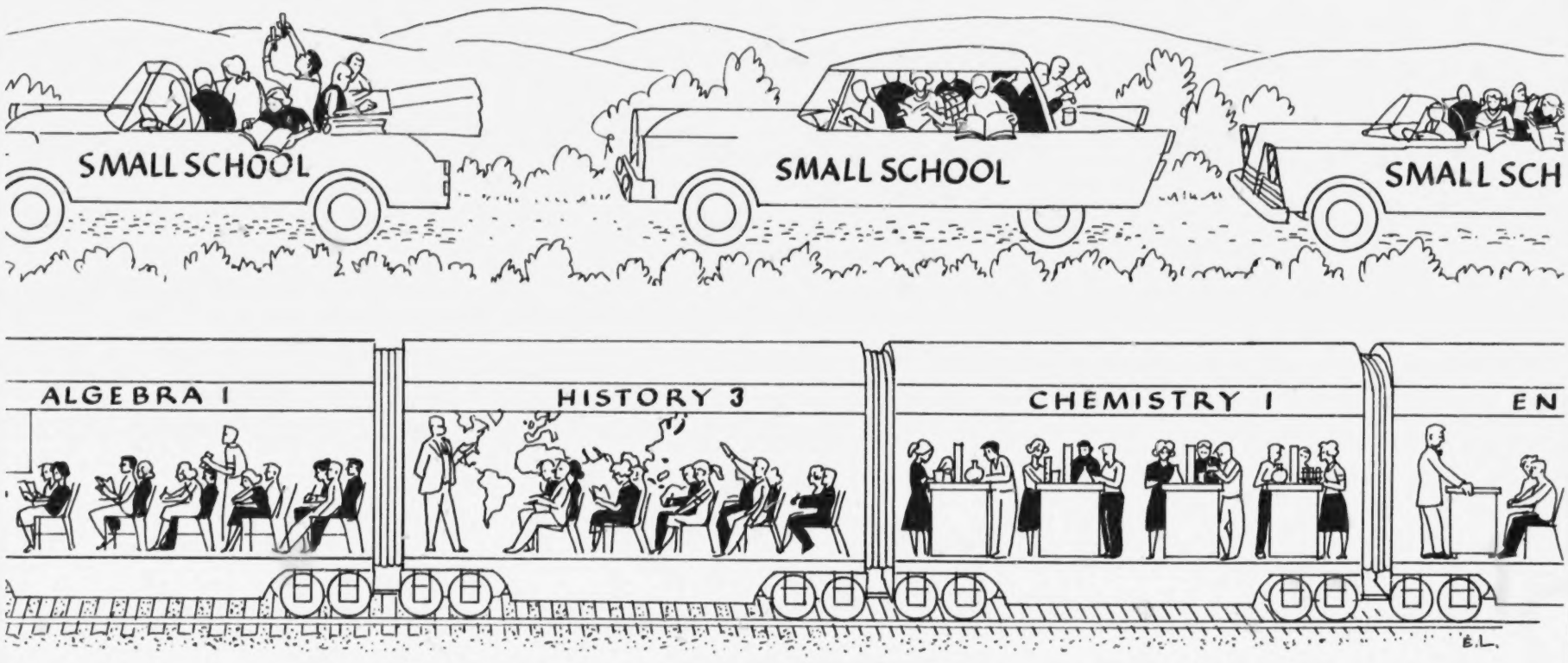
terned on train design. But small schools can be designed to serve educational needs just as the automobile serves the needs of transportation of small groups far better than a branch-line train.

The small school should be as utilitarian as the automobile. The small school, like the automobile, should be designed as a self-contained unit. It should not be designed as a series of specialized units, as is the railroad train. Like the automobile, the small school should be designed to serve the varied needs and interests of small groups of students. This means there is need for a new design of small schools, a design that will replace the rigidity of the specialized big-school pattern with a more flexible pattern. This design rests on several related characteristics.

1. The Small School Serves Small Groups. Automobiles and trains are built of the same materials, operate on similar scientific principles, are fast, dependable, economical when used for the purposes for which they are designed. Four or five people in an automobile can reach their destination as speedily and more economically than four or five in an otherwise empty railroad car. So it should be with small schools. They should be designed to serve small numbers of students in units of one, two, three, eight or a dozen. These students don't need specialized classrooms and rigid schedules.

2. Human Relations Are Basic. In small schools students, teachers, administrators and parents know one another. This face-to-face relationship, in school and out, is the fabric that makes the small school unique. In large schools this personal relationship is lacking. In the small school a new administrator, teacher, or student may change the nature of the school. This circumstance requires a kind of organization or design that differs from that of the large, impersonal school. Small schools can capitalize on this distinctive, inherent characteristic.

3. Organization and Operation Are Articulated. The small school is a closely knit institution including all ages, abilities, and varieties of educational need integrated into one operation. It has one student body (kindergarten to high school senior), one faculty, one administrator, and a continuous curriculum, all in one building. Teachers, guidance counselors, nurses, and special services provide for both elementary and high school grades. Pupils and



faculty have much in common through sharing a mutual community life. The problem of the small school is not to "break down" a large impersonal population into smaller units for effective learning, but to use the advantages of close integration in expanding the variety and scope of the educational program.

4. Operation Must Be Flexible. The automobile is more maneuverable and more responsive to the desires of passengers than the train. It can start and stop, go fast or slow, and detour or even change direction at the will of the passengers and as needs arise during the trip. The large school meets student needs through a wide variety of organized classroom units. The small school does so through individual and small group learning where the route is planned by students and teachers, where pupils proceed largely on their own initiative and responsibility, but with the advice and guidance of the teacher constantly available.

5. Personnel Must Be Versatile. The small school requires versatile staff members, competent in more than one subject field, who are able and who enjoy working with students as they explore together new fields of knowledge. Versatility rather than specialization in subject matter, ability to use other resources than the teacher's memory, and to use other means of communication than the teacher's voice in creating an effective learning situation are the hallmarks of effective personnel.

6. Facilities Must Serve Multiple Purposes. The small school has the same small body of pupils using its space for the wide variety of purposes needed to serve their varied wants. If the building is planned as a series of specialized rooms, loosely coupled together like a railroad train, each space will be vacant much of the time. Hence, in laying out a small school building, space must be provided for multipurpose use, since the traditional classroom does not serve.

7. Pupils Participate in Policy and Planning. The passengers in an automobile determine the route, time, speed, and length of the trip. Similarly, students and teachers in a small school inevitably have a part in school policy and program-planning, as well as classroom work, without any conscious, organized effort to include the pupils.

8. The School Is an Integral Part of the Community. The small school is not so large and complex that it becomes a self-contained unit governed by an overall, district-wide administration somewhat detached from the community. The small school is both in structure and daily operation part of the community's life. What goes on in the school often has direct bearing on community

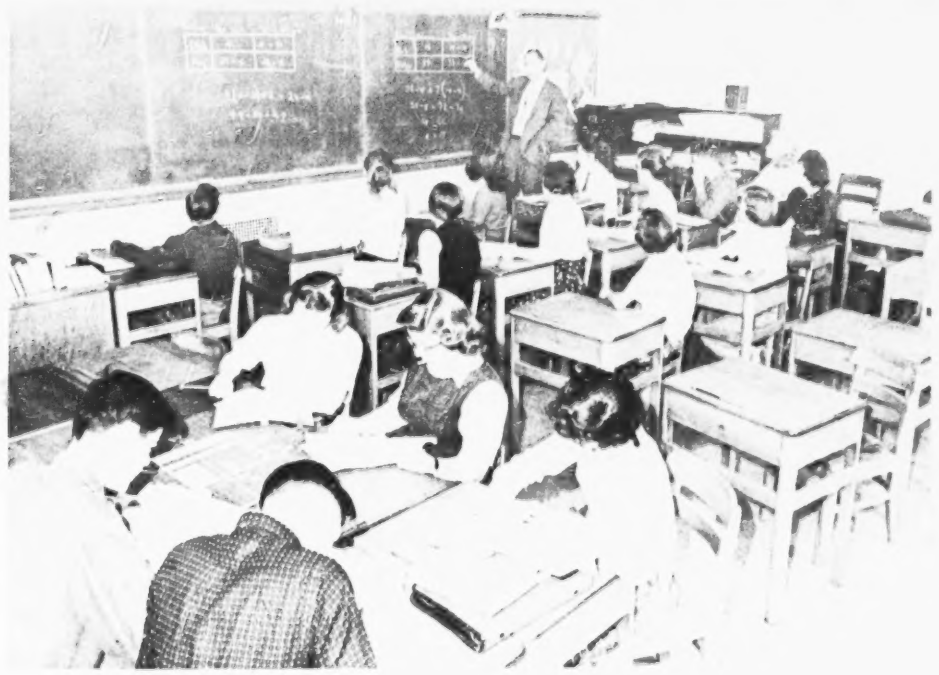
life, and at the same time, upon community attitudes or actions that may have more to do with the success of a course than efforts of the teacher. A problem of the small school is to develop more effectively the existing school-community relationships rather than to change them into more impersonal avenues of communication.

These eight characteristics of the small school are inherent. The 22 central schools participating in the Catskill Area Project in Small School Design are using them as they develop ways of achieving more effective small school design. They are applying theory and practice in the areas briefly described in the following pages because they know that theory and practice develop together. A practice that does not fit the pattern of a large school may be exactly what the small school needs, just as a steering wheel does not belong on a train but is essential to automobile travel.

One of the strengths of the small school is the opportunity it provides for learning in small groups. Students and teachers know one another. They can plan and work together. Individual needs can be met; individual capabilities can be developed.

MULTIPLE CLASSES INCLUDING SUPERVISED CORRESPONDENCE COURSES

These ninth graders are studying general mathematics, using a visual device, prepared by their teacher, to learn about percentages. They are in a multiple class.



These ninth graders are the "class" in general mathematics that is studying percentage. They meet with the same teacher in the same room at the same time as the 25 students across the room who are studying elementary algebra.

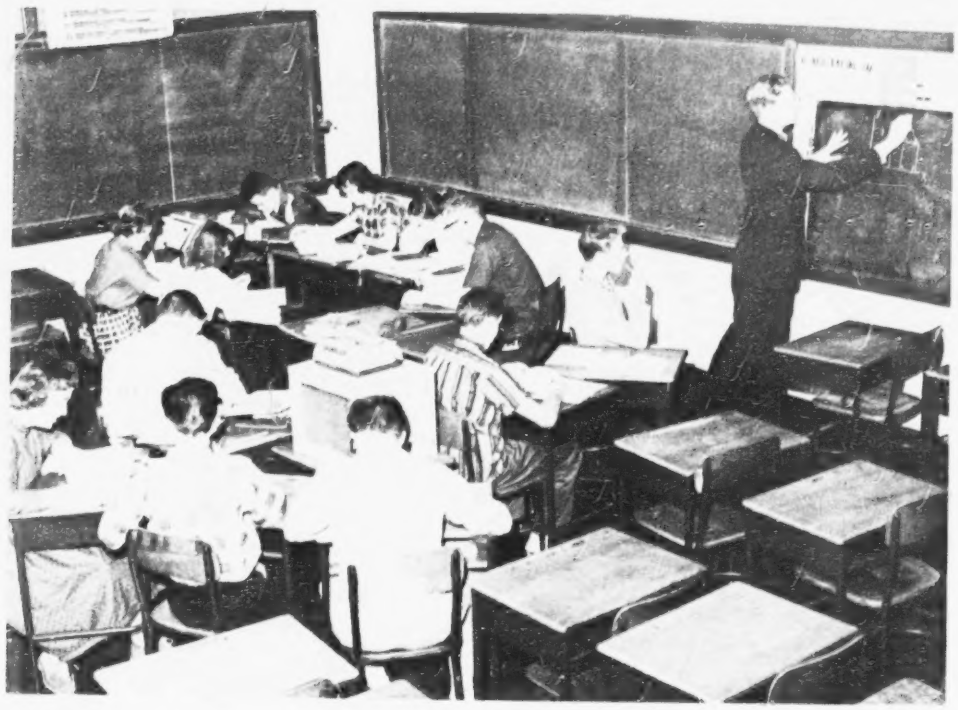
They said "multiple classes won't work" . . . Yet . . . in many small high schools girls and boys in small groups in the same room at the same time with the same teacher study different subjects. Good teachers have been teaching such classes for years — "multiple classes" — they call them. Three girls study French I in the same room with the same teacher as do eight Latin students. In another room sixteen students are clustered in three groups — six students study intermediate algebra, six, trigonometry, and four, advanced mathematics. In their vocational business class, each of the seniors is at work on his own — one taking dictation from a transcription machine, one typing, one cutting stencils, one doing business arithmetic. Each is busy with an assignment made during the previous meeting of the group. Thus the teacher is free for the moment to help the six ninth graders across the room who are beginners at typing. Those are a few illustrations. That's what you do in small high schools to give boys and girls the courses they need.

What Do Teachers Think Who Teach Multiple Classes? *My students went faster on their own . . . I would have held some back had I apportioned the material to be covered as I had been accustomed to do . . . You plan more in some respects and less in others . . . For example, I spend less time selecting problems for the students to do because this becomes their responsibility . . . Except for a moment's thought and location of the student's place in an assignment, I find no difficulty moving from one subject group in my class to another . . . Besides being able to do many usual things simultaneously, you can do many more things than in typical classroom situations."*

It works, too. A business education teacher combined three seniors who needed second-year bookkeeping with a class of students studying vocational business practice. The school could not provide a separate class for the three boys; so they attended the multiple class daily and conferred with the teacher during a study period that alternated with their physical education class. All three passed the State Regents examination.

You will find many combinations of subjects in multiple classes. Some classes are all mathematics where algebra, trigonometry, and advanced mathematics are studied simultaneously by the groups. There may be different groups studying different courses in art or shop. Often you will find progressive development in the same subject matter field where the groups are studying French I, II, and III; or some similar pattern in another foreign language. There also are classes in unrelated subjects moving along simultaneously; for example, a social studies group carrying on while a smaller group follows a supervised correspondence course in the same room.

How Do Teachers Plan for Multiple Classes? Teachers, of course, make plans for teaching multiple classes, as do good teachers who teach any kind of classes. Some



Three classes in three kinds of mathematics in one classroom at the same time with the same teacher! Tape recordings prepared in advance by the teacher guide two groups of students while he uses the blackboard to clarify a problem for the third group.

A supervised correspondence course makes it possible for the girl in the foreground to study German with such help as she may need from the teacher who is fluent in French and Latin. The group in front of the blackboard are studying Latin; the group of advanced students gathered around the phonograph are listening to the recorded voice of a native Frenchman.

prepare dittoed "work sheets" for their students. Some prepare more extensive "Learner's Guides." Both provide students with the direct guidance they need as they proceed at their own best rates of speed under the teacher's constant, direct leadership. These work sheets and Learner's Guides spell out study objectives and goals and contain specific directions for using textbooks, workbooks, laboratory manuals, and other learning materials.

There's more, however, to planning for multiple classes than preparing work sheets and Learner's Guides. Teachers and librarians cooperate for more fruitful use of library resources by students. Teachers select correspondence courses. They choose films, filmstrips, and recordings that students may use in groups or on their own; and teachers often make recordings on tapes to help, for instance, students improve in their listening of foreign languages or to explain some difficult mathematical concept. All these — library resources, films, filmstrips, recordings — become part and parcel of work sheets and Learner's Guides. So students in multiple classes have at hand these "tailor-made" directions that they use under their teacher's guidance.

Do Students Learn in Multiple Classes? Records and teachers indicate that students in multiple classes learn. *"We get more individual attention this way and can go on by ourselves,"* said a student in a multiple class where elementary algebra and general mathematics are taught simultaneously to two groups. They use "Learner's Guides" their teacher has prepared and meet in subgroups of three or four to discuss new work explained by their teacher. Thereafter the teacher gives individual attention to each student, discussing common difficulties with each group when needed. He gives unit tests at stated intervals, but students who learn more rapidly than others are urged to go on to the next unit as soon as they have demonstrated their competence, which, thanks to relatively small classes and individual work with students, teachers readily sense.

One way to provide students with an enriched program is to use supervised correspondence courses to augment regular courses.

Many carefully developed and tested supervised correspondence courses have been approved by the State Education Department. Students' papers are mailed to distributing centers for rating according to established norms.

Correspondence Courses Provide Opportunity. A student wanted a German course. So a supervised correspondence course helped. The student studied under the guidance of the teacher of French and Latin and passed the course — and the teacher took up German on the side. Three senior girls wanted a third year of French. Again a correspondence course was the answer. The teacher of foreign languages supervised the trio during her study period and the girls passed the State Regents examination in French III. A senior boy had to have an additional course in advanced mathematics to gain acceptance in an engineering school. He had a full schedule of five subjects, all required for graduation. So the school arranged for him to study solid geometry by supervised correspondence course. The boy worked at it daily during a study period from November to June, checking his progress from time to time with the mathematics teacher, and passed the State Regents examination with a grade of 98 per cent. These illustrations show how supervised correspondence courses help.

And What do Students in These Small Schools Say?

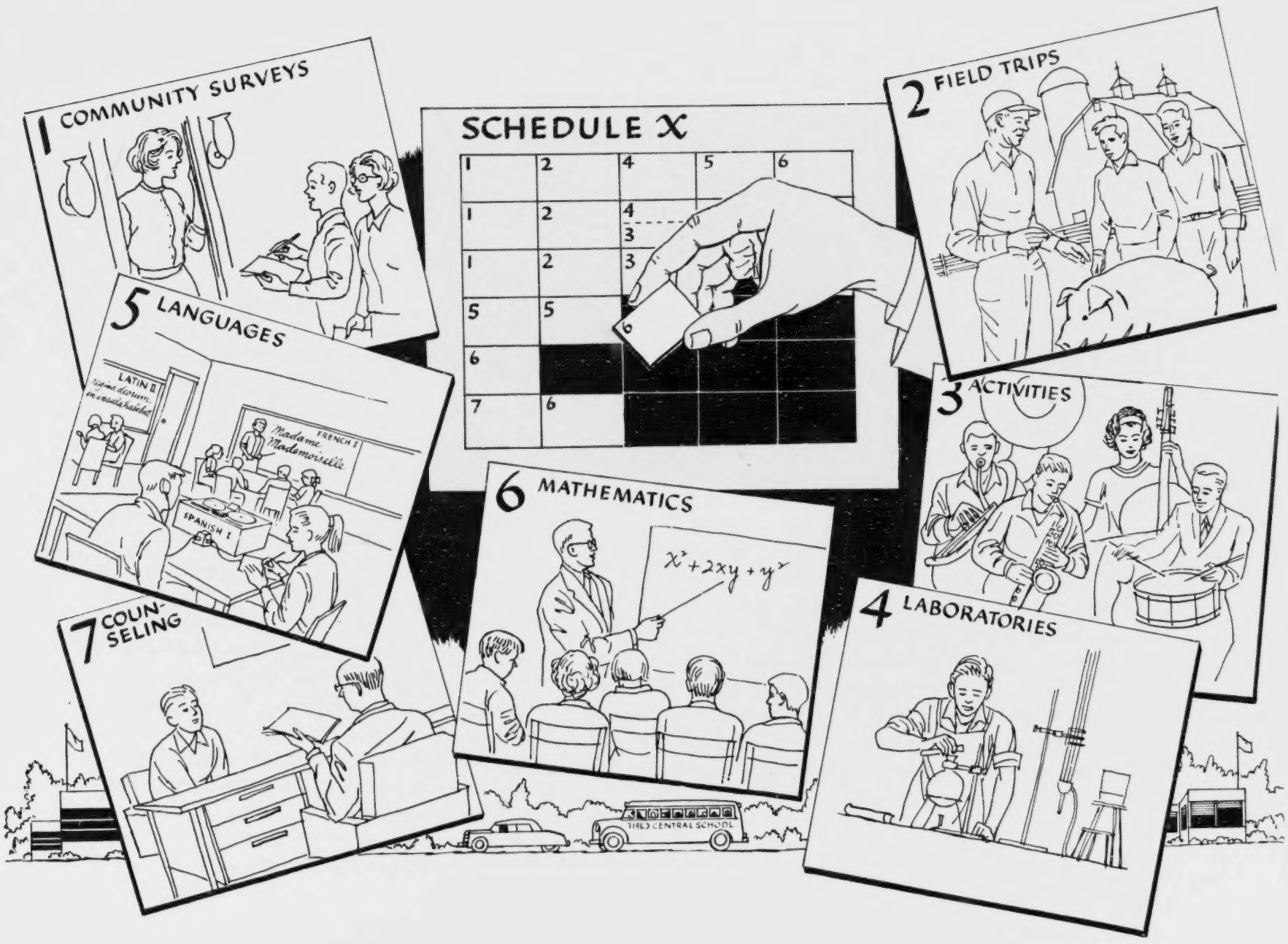
"We have the chance to take more courses that we want instead of being pushed into whatever seems best for the majority . . . We don't do more work, but we do more on our own and learn more, too. Last year we picked up a lot of French while we were studying Latin and I'll take French next year . . . You get a feeling of achievement when you finish an assignment because you have figured out things for yourself and in discussion with other students . . . You learn to make decisions and to budget your time."

Knowledge, study skills, and initiative! Multiple classes, wherein Learner's Guides, work sheets and supervised correspondence courses help to provide all three, give small schools more opportunity to meet the varied needs of their students. The principle of the multiple class may be the key to the redesign of the small school program.

FLEXIBLE SCHEDULES

The daily schedule is an organizational pattern designed to arrange a school's resources of time, space, teachers, and students for appropriate handling of the instructional program. Often, the traditional schedule in large high schools has emphasized the criterion of efficiency by arranging classes of twenty to forty or more students. Most small schools — even though their class units may have been a fraction of the size of those in larger schools — have attempted to imitate large school organization. Thus, many small high schools have neglected their inherent strength, the opportunity to build an instructional program around the needs of individuals and small groups.

Endeavors to increase the variety of learning opportunities in small high schools often resulted in adoption of eight- or nine-period days which could spread the talents



of small staffs over more subject-matter fields. So the rigidity and formality of the small high school increased and the short periods in the schedules did not encourage creative teaching and individual learning. These shackled efforts to develop classes which feature teacher-student planning and group work, as in multiple classes.

There is need to provide for more flexibility in the instructional program of small high schools. That's one reason why you have multiple classes, why you use correspondence courses. Flexibility also demands new designs for master schedules. The railroad-type timetable is not appropriate for small informal settings which feature strong human relationships. Emerging in some small schools are:

- Longer periods scheduled four times a week instead of five
- Rotating periods that give each class more opportunity to meet at optimum learning times of the school day
- Morning and afternoon schedules that are interchanged every two weeks
- Two or more master schedules that can be exchanged almost at will

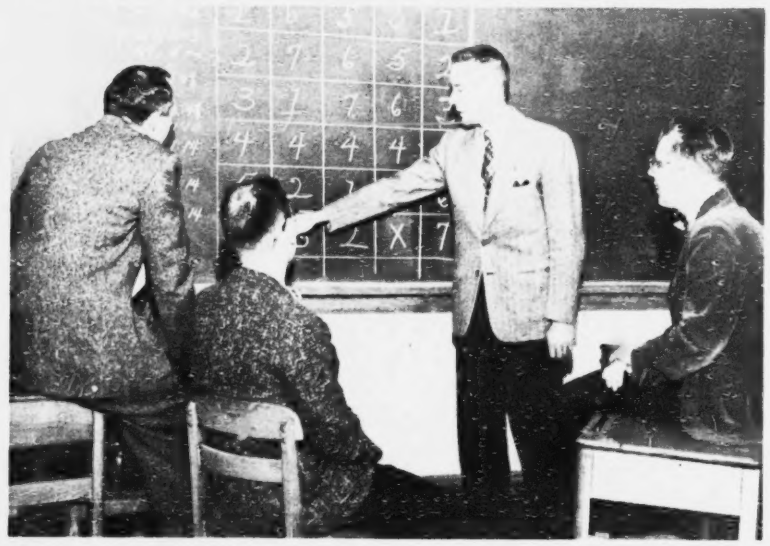
Where longer class periods are being tried, traditional "study halls" have in some cases been dropped. The reason? Longer class periods provide the teacher of the subject with opportunity to supervise the study of his own students, helping them individually and collectively when necessary.

Said a veteran high school principal: *"The time pattern itself may not be the crucial item in the effectiveness of a schedule. It is more important that teachers feel their schedule to be the one most appropriate for the expression of the educational program of a particular school."* Another high school principal sums up the scheduling problems of the small high schools this way:

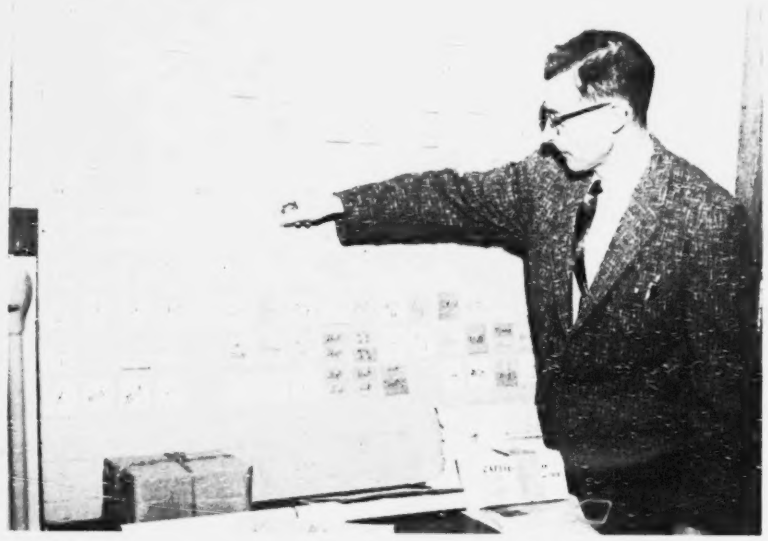
It is true that all our efforts to develop new schedules will fail if we are unable to obtain staff endorsement of purposes related to any new time patterns. That does not mean, however, that we should not go on studying and dreaming about new possibilities for the organization of learning activities. It is important that we see the implications for adapting elementary school scheduling on the one hand and college-type scheduling on the other.

Perhaps an electronic computer could provide the schedule variables available for a given instructional program geared to the needs of individuals and small groups. This and other ideas are still in the "dream" stage, but some of the schedule innovations currently in practice are proving promising — more means to the all-important end, a new type of design for better small schools.

This student, before he goes on to his next class, checks his rotating schedule.



Faculty members consider the possible advantages of a rotating schedule.



With fewer teachers and classrooms it is that much more difficult to provide variety and flexibility of course offerings in small schools. Alternate master schedules inter-changed bi-weekly help.

The 22 central schools participating in the Catskill Area Project in Small School Design are located in the rural tri-county area north and west of New York State's Catskill Mountains, a predominantly agricultural region.

*Headquarters of the Project's staff are in Oneonta.

Richfield Springs
Springfield
Cherry Valley
Milford
Schenevus
Oneonta
Stamford
Grand Gorge
South Kortright
Delhi
Roxbury
Andes
Margaretville
Downsville

SCHOOL AIDES

More time for teachers, more time for teachers to plan, more time for teachers to help individual students, more time for teachers to keep in touch with parents . . . but where can the teachers find the time? One answer is — school aides, serving groups of teachers. Here are some examples that show what school aides are doing to give teachers more time to work at the jobs they are trained to do.

The art teacher explained the assignment to be done by the class of seventh graders and answered a few questions. Then she was ready to cross the hall to another room where older girls and boys in an art class awaited her. She knew this class would be ready to start work at once; she had heard the school aide call the older students to order and help them get out the materials they would need during the class period.

"Thank you," said the art teacher to the school aide as that young woman entered the door, *"The seventh graders are ready for you. They'll keep busy because they have much to do. Help them if they need more materials. I'll have the older girls and boys well started in a few minutes; then you and I can rotate for the balance of the period."*

Thus the presence of a school aide allowed a trained teacher to bring her talent to a group of students too large to work in the regular art room at the same time as another group. Here you have multiple classes again, but this time operating in two different rooms under the direction of the same teacher. So the art teacher has more time to teach. Simple, isn't it; but why don't schools do this more often? One answer is that they have no school aides to keep classes once started moving smoothly ahead.

"This boy needs just a little special help," thought the teacher as the shy youngster fumbled for proper pronunciation while reading aloud in the class, *"and I can give it to him today, thanks to the school aide who has taken over the study hall that was assigned to me."*

Crowded study halls are not the place to provide individual help, especially of the kind that calls for oral reading by a shy boy. Moreover, every teacher of a given subject knows there are terms and meanings that baffle some students more than others. And every teacher knows that a few minutes spent quietly with such a student when the trouble is first encountered are likely to mean the difference between interest and disinterest, between success and failure. With a school aide available, this teacher had the time she needed to use her special skill to help the student just when he most needed her help.

The school aide whose time is well planned and used can take over many routine tasks from the teachers' hands, thus giving teachers more time to work with students and for other responsibilities that require professional competence.

The teacher did not have to cut the stenci and run off copies of the guide sheet h had prepared. The school aide did bot jobs.

School Aides Are Not New. One of the first was the student who won the privilege of washing the blackboard at the end of the day. Next came principals — expediters of school teaching. Janitors took over furnace tending and cleaning. Then began the ever-swelling current of specialists; physical education teachers, librarians, nurses, guidance counselors, experts in testing and measurement, psychologists, experts in remedial reading, and many more. Whatever the number, the major responsibility of each has been to aid the classroom teacher.

Thus the school aide, frequently a parent whose children are now in elementary school, takes over the general supervision of a study hall, releasing trained teachers for the work they are especially qualified to do.

Often, such trained teachers are called upon in many schools to supervise one or more study halls a day (The theory is that they will "teach students how to study."). What they really do is try to maintain reasonable quiet in the study hall — a job a good school aide can do. In one school, for example, supervision of study halls by school aides released several teachers; some to give more time for preparing lesson plans, and others for such special assignments as teaching classes in remedial reading and in citizenship for slow learners.

The slim woman with the wavy brown hair returned some graded papers to students as they entered the room. They sat down to view the alterations and suggestions and then went to work as directed by the assignment sheets she handed to each member of the class. Quietly she got the class under way. After a few minutes a young man bustled into the class. He was the teacher; she was a school aide. After a few brief words, she went out of the room and he stepped over to assist a student who had raised his hand as the teacher entered the room. Thus a school aide had developed an efficient learning situation by following the specific instructions provided beforehand by the teacher.

Teachers may learn much about their students by watching them in out-of-class situations. Most teachers have this opportunity, through the extra-curricular and other non-teaching responsibilities they carry in and about the school. But what the teacher learns about the behavior of his students in such circumstances is apt to be as marginal as it is fortuitous, in contrast to what he may be able to teach his students in class — given conditions that permit him more time for preparation, more time for individual instruction. Hence, measures that relieve trained teachers of assignments that tend to be marginal as to teaching and learning are welcomed by school administrators and teachers alike.

Making Use of School Aides Saves Teachers Time. School aides render helpful routine service in receiving, routing, and dispatching supervised correspondence courses provided by many schools to augment or supplement other courses. There is a large amount of time-consuming clerical work involved in the proper use of

The school aide went to the supply room and obtained the materials the teacher needed for the next class.

The school aide assists the guidance counselor with correspondence and other routine paper work.

The school aide helps teachers with their "house-keeping" by filing reports, catalogs, and pamphlets they may want to use in planning their lessons.

correspondence courses. Teachers who have full schedules of classes, plus responsibility concurrently for several correspondence courses, are helped by the school aide who takes over the clerical work necessary.

School aides take over cafeteria supervisory duties from classroom teachers who are released to use the time so gained for planning or teaching.

Good schools check constantly on attendance of students for many reasons. Among them is the fact that state financial aid to the school district is computed on average daily attendance. Another is the close contact such checking establishes between school and home. Who is to do this vital, time-consuming task — teacher, guidance counselor, school secretary, principal, or his assistant? Many schools find school aides ideally suited by personality, community standing, and home background for this responsibility. The record of such calls and information so gained are passed along by the school aides to the staff members concerned for appropriate use when the absent students return to the school.

The teacher had completed a well-made plan for his American History class; but he wanted to provide a bibliography of materials in the well-stocked school library. So he requested the librarian to help. Multiply the time so consumed by the numbers of teachers making similar requests, add to it the amount of time needed by the librarian to card-catalog new books, prepare shelf lists, assist students, check book reviews, order new books. It's easy to see that the typical librarian wishes she had a few extra pairs of hands and eyes and a ten-day week to get done the many things she feels librarians should be doing. School aides are providing some of those pairs of hands and eyes by doing some of the routine, time-consuming typing and filing that crowd the trained librarian's day.

Teachers use more films and filmstrips, more recordings, too. Is the film ready — has it been checked to be sure it has been properly rewound, has it been threaded? Are projector and speaker in working order? Is the screen where it should be? Did the filmstrips arrive on time and is the projector on hand and in operating order? Where are the play-back and the records called for? If you are teaching five classes, one after another, you will welcome a school aide who can say, "Yes," to such questions as these.

Yes, school aides — alert, mature, able women who are serving the schools of the communities they call "home" — have increased twofold in participating schools in the two years beginning in the fall of 1957. And there's room for more.

The librarian counts on this school aide to assist her in keeping the card index up to date and for many other time-consuming routine jobs.

Students know their school aides who live in the same community. These cheer leaders, on their way to practice, stop to chat for a moment with the school aide in charge of the study hall.

Top: A school aide and a graduate student team up to transcribe teachers' records, a time-consuming clerical job that calls for first-class typing, checking and rechecking.

Bottom: Three school aides are on their way home . . . and they'll be back in the morning. They know now what they will do when they get back.

USES OF ELECTRONIC COMMUNICATION

Teachers Use Electronic Equipment to Help Teach. The teacher stood at the blackboard, explaining a new principle of trigonometry to the small group of students before him. Across the room another group studying intermediate algebra had drawn their desks into a cluster around a tape recorder. Led by a student chairman, they referred to the dittoed "guide sheets" the teacher had prepared and also to their textbooks. The chairman then started the tape recording and the students heard the familiar voice of their teacher explain the algebra problem step by step. *"Now stop the tape and work the problem."* said the voice. The chairman rewound the tape and joined his mates in carrying out instructions. Quicker students helped others with difficult steps. The chairman started the tape again and once more the teacher's voice explained the problem, step by step, as each student followed his own work. Then the tape went on, the teacher's voice directing the group to turn to their guide sheets and textbooks to work several problems of the same type. Presently he joined the group, having his trigonometry students well started, and gave individual help to algebra students where needed. Thus did tape recording equipment double the time the teacher could give to teaching.

"Comment vous appelez-vous? Je M'appelle Anne." said the native French voice on the recording that accompanied the French I textbook. The three students studying French I repeated the pronunciation, playing the record over several times, reading the designated passages in their textbooks and checking each other's own attempts at proper French pronunciation. When they felt they were ready, they turned to the tape recorder on the same table and recorded their own versions of the same passages. Later in the day their French teacher listened to the tape. Next day she discussed the pronunciation of the three students with them, using the tape and the recording

This close-up of one group in a multiple class in foreign languages reemphasizes how small groups may profit through use of phonographs and similar equipment, thus multiplying teaching time of teachers.

Two tape recording units multiply this teacher's effectiveness. He cuts the tapes himself, correlating his explanations and directions with those in the students' textbooks. Three separate classes . . . one teacher.

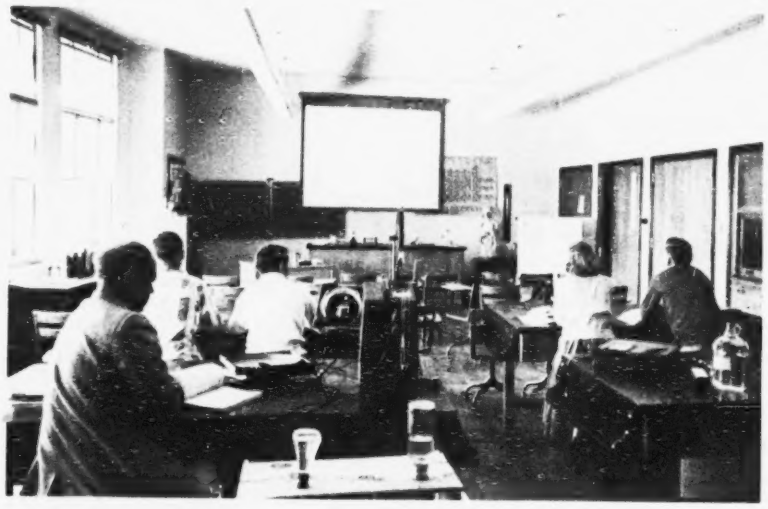
to illustrate her points. Phonograph and tape recorder made it possible for three students to study French in the same classroom at the same time as other students studied Latin under the same teacher.

These few illustrations suggest how films and filmstrips, film and filmstrip projectors, phonographs and records, tape recorders and other kinds of transcription equipment — to say nothing of radio and television — are being used by imaginative teachers. Now, fit a juke box with foreign language and other kinds of teaching recordings and install it in a school . . . there's one on the way. All such equipment does not replace the teacher . . . instead, it gives him and her more time to use better the high level of professional competence each possesses.

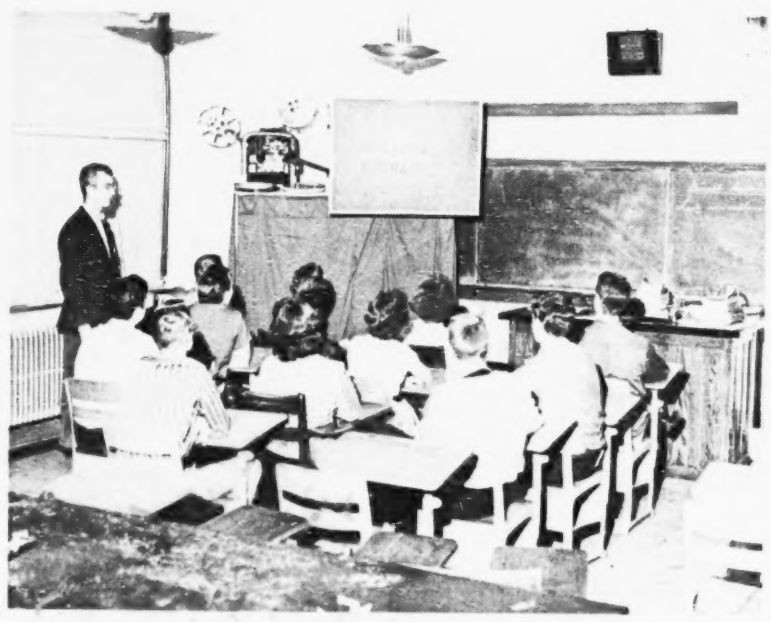
The twelve students in the physics class carefully studied the picture on the 31 by 41-inch homemade screen in the front of their classroom. They watched ping-pong balls fired in methodical precision by the large model of the cyclotron. From time to time they referred to the lesson guides that accompany each film in this series of 162 films prepared by an outstanding physicist who presents these carefully planned and splendidly equipped high-school physics lessons.

When the film demonstration came to a close, the students regrouped their chairs and discussed what they had seen and heard with the teacher. Without leaving their classroom in their small rural high school, these 12 girls and boys (all potential college students) learned how atom-smashing works. They benefited from equipment the school could not possibly afford and from the instruction an eminent physicist could give . . . and so did their classroom teacher whose main preparation is in mathematics but who can serve his students well as a generalist when films such as these are available.

This series of physics teaching films is presented by an eminent physicist and utilizes demonstration equipment small schools cannot equal.



Recordings, some "tailor-made" by the teacher on tape, some commercially-prepared discs, multiply the teacher's teaching time, and enable students to proceed at their own best learning pace . . . to review on their own.



Some science teachers have strong backgrounds in physics, some are well trained in biology and chemistry. Physics films such as these help both teach physics better.

SHARED SERVICES AND TALENTED YOUTH

Long ago, far-sighted administrators of small schools began to share the services of special personnel and, sometimes, of equipment. They now are increasing the variety and quantity of such exchanges.

Thus two teachers of Industrial Arts and Agriculture exchange places at noon daily in two schools six miles apart. So 20 students in Agriculture and 30 in Industrial Arts are taught by two qualified teachers whom neither school could retain alone. In another instance, students instead of teachers do the traveling. Neither school could afford a shop for Agriculture as well as Industrial Arts. So a cooperative program was worked out whereby one school provides a comprehensive Industrial Arts shop while the other school, seven miles away, has set up a complete Agriculture shop. Similar arrangements permit girls to take vocational and other courses. Little instructional time is lost as students travel by school bus and class schedules are timed to meet travel time. Classes so provided cost each community considerably less than they would cost were each school to carry the load alone. Sometimes specialists and services can be transported from school to school more readily than can all students be transported daily to one school.

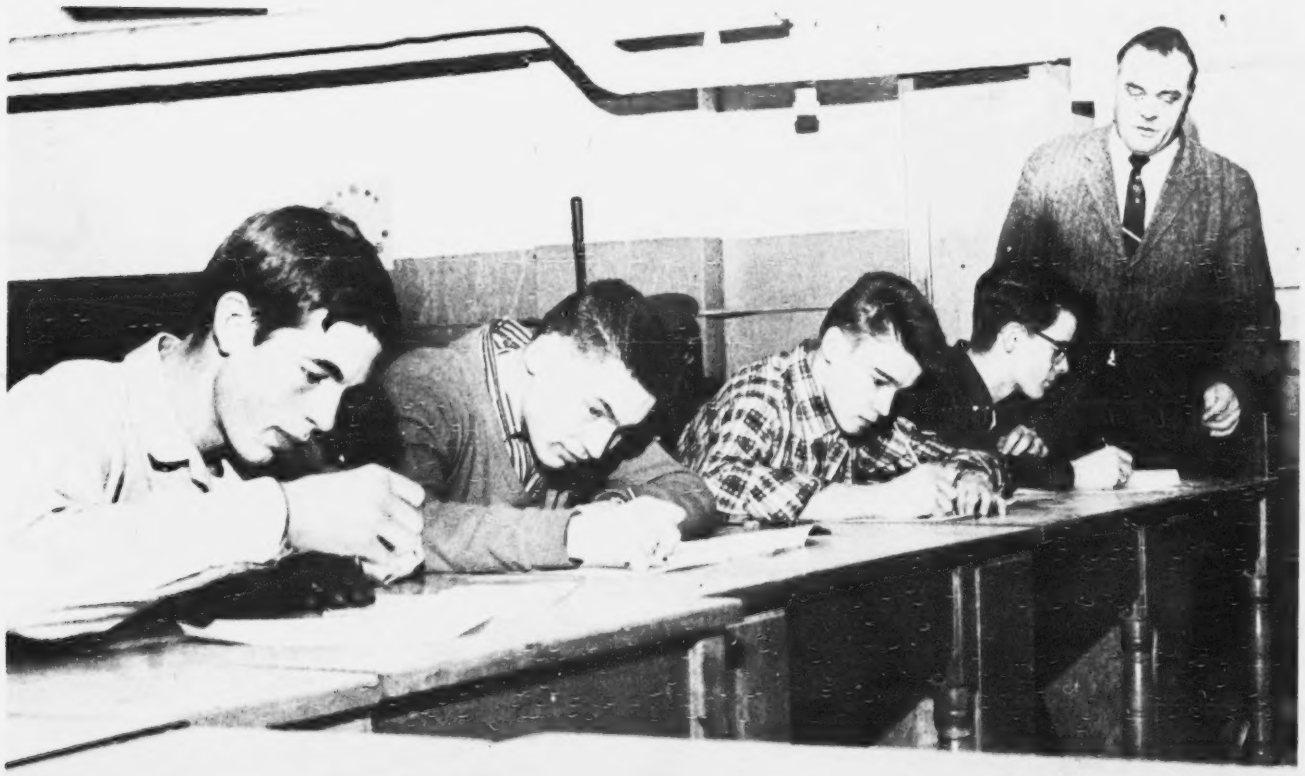
Schools Share Services of Highly Trained People. A guidance counselor whose services are shared among three nearby schools makes good use of the one day per week she gives each building by careful scheduling of interviews. Some are with students, some are with staff members who seek this specialist's help in meeting their students' needs. Thus many staff members are aided in the handling of guidance problems themselves.

The foreign language teacher dismissed her class, put on her coat and walked to her car in the school's parking lot. She was on her way to another school five miles down the road where she taught Spanish II and Latin I and II each afternoon. Such circuit teachers help small schools provide foreign language courses where there are too few students to justify a full-time teacher's salary.

In the late 1950's in New York State alone, over 80 Boards of Cooperative Services, usually set up within supervisory districts, were offering more than 60 kinds of shared services to district schools. Such services help classroom teachers continue to do better the job they are trained to do.

Schools that share the services of trained personnel can provide programs such schools alone could not afford. A "shared" teacher of Agriculture and a "shared" teacher of Industrial Arts stop to confer as they exchange schools for a part of the day.

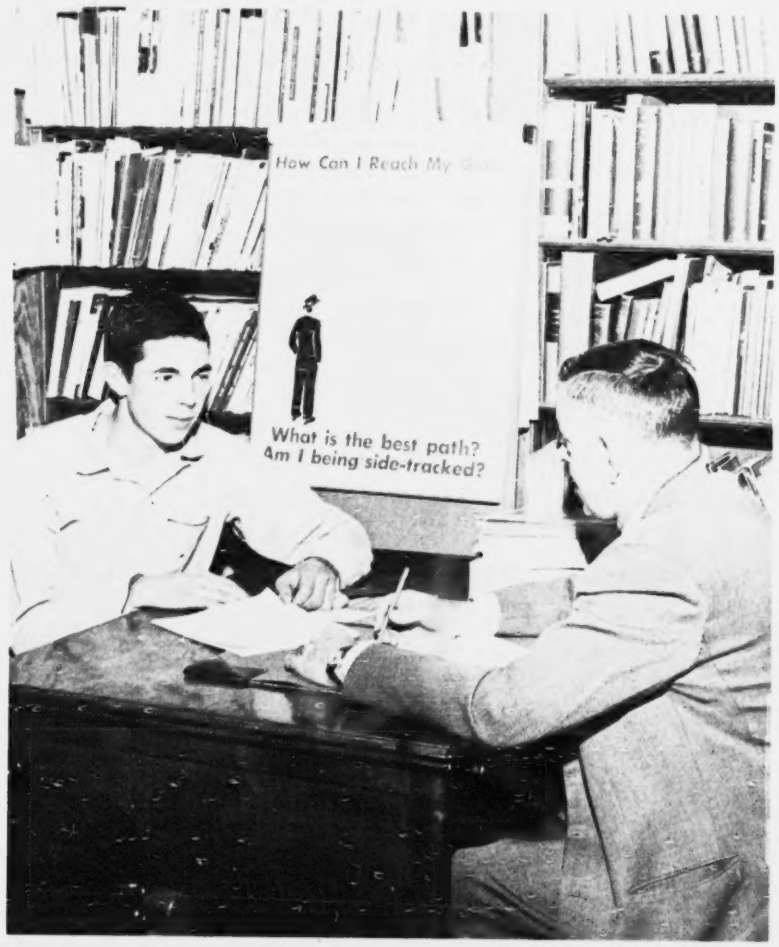
Thanks to a program of shared services, this specialist meets twice the number of classes he otherwise would meet by teaching in two schools instead of one.



Interests of Talented Students Are Met. The participating schools recognize and help talented students by means of multiple classes, supervised correspondence courses, and utilization of superior teaching films, filmstrips, and recordings — commercially produced as well as "tailor-made." Moreover, closely related to the principles that promote shared services, participating schools provide challenging intellectual experiences for talented students with the help of the nearby State University Teachers College.

Weekly throughout the academic year these students attend, at their school's expense, seminars conducted by college faculty members in science, mathematics, and the humanities. These potential college students are thus encouraged to widen and deepen their intellectual experiences while they acquaint themselves with techniques of college teaching and learning in a college environment. Small schools profit, too, by lifting their sights on what their own schools can do.

A guidance counselor whose services are shared among two or more small schools can be a specialized services teacher cannot offer and which help students as well as teachers to do a better job.



One dental hygienist operating on a systematic rotating schedule in a program of shared services provides needed services at costs each school can afford.

Shared services programs can provide at reduced cost to schools specialists of many kinds. This one is trained to diagnose speech and hearing deficiencies.

Courtesy State University Teachers College.

Cooperation between schools and college enables advanced students to study advanced work with college professors in a college environment . . . another step towards more complete preparation for college.

GOALS FOR THE DEVELOPMENT OF SMALL SCHOOL DESIGN

Basic Purpose

To improve variety and quality of education

Objectives

To develop small school design that includes:

1. Theory: to encourage and guide the development of practices
2. Learning Methods: for students working individually and in small groups and for teachers as consultants and guides
3. Learning Materials: printed, auditory and visual (including more use of electronic devices) to assist the learner to proceed, led by his own initiative and responsibility
4. Organization and Facilities: adapted and developed for small group use
5. Comparative Relationships: whereby schools and colleges work together

Areas of Development

1. Multiple Classes: the core of small school design
2. Supervised Correspondence Study
3. Flexible Scheduling
4. School Aides
5. Electronic Communication
6. Shared Services

Avenues of Development (Procedures)

1. Innovation
2. Demonstration
3. Evaluation
4. Dissemination

• • • •

CATSKILL AREA PROJECT IN SMALL SCHOOL DESIGN

Project Participants By Study Groups

Multiple Classes. Robert F. Burns, Lucille Cady, Doris Chamberlain, June V. Cole, Archibald Glendening, Regis Hammond, Malcolm Hartwell, Edna Hawkins, Evelyn R. Hodgsdon, Muriel Kellerhouse, Margaret Law, Mary Lenhardt, Grace Lent, Helen McDivitt, Thomas J. Matalavage, Dan A. Morse, Patricia Nestle, Robert Nonenmacher, John Powers, Susan Root, Eilen Russ, Mary Scott, Claudine Smith, Laverne H. Thomas, Paul Waterman, Cary Wood.

Supervised Correspondence Study. Leslie C. Graves, Marion Hoagland, Helen Lester, Grace Mojzis, Nunziata Magistro, Robert P. Penrose, Philip K. Putman, Frederick West.

Shared Services. Edward A. Burke, Charles T. Button, M. C. Carpenter, Ralph R. DeGelleke, Roderick C. Dorrance, Viola Fraser, James Hines, Lowell S. Huntington, Amenzo W. Merrill, John Olive, Clarence Parks, Elton F. S. Shaver, C. Dean Sinclair, Gilson Slater, John E. Sliter, Addison Smith, Nathan Southworth, John Stebbins, Edwin R. Tillapaugh, Harold C. Tyson, Eugene H. Wieand, John E. Wilcox, Ernest M. Youmans.

Technological Communications (Physics Film). Richard Bates, Alonzo DuMont, Robert E. Foland, Arthur Hartman, Richard Nostrant, Lucy P. Romig, William Summer, Robert S. Vail, Robert C. White, William C. Wheeler.

School Aides. Georgianna Bouchoux, Norma Boyd, Dorothy Brooks, Madeline Callaban, Evelyn Clark, Margaret Conant, Catherine Crosby, R. R. DeGelleke, R. C. Dorrance, Jean H. Dreyfus, Evelyn Ellis, Ellen Francher, Lillian Fucci, Edna Gavette, Winifred Goodale, Leslie Graves, Irene Hillis, James Hines, Arlene Hood, Lowell Huntington, Hazel Johnson, Shirley Kellerhouse, Seldon Kruger, Joan Lane, Virginia Lape, Olga Leslie, Mary Locy, Helen Nielson, Edward S. Onody, Katherine Peck, Mary Jean Penrose, Philip Putman, Doris Reeves, Margaret Rowe, Warren Ryther, Harold Skinner, Ashley Strong, Edwin R. Tillapaugh, Beatrice Tischmacker, Ruth Turner, Theda R. Wheeler, Elizabeth Wilkinson, Margaret Williams, Marion Wilson, Cary Wood.

Flexible Scheduling. James Brayden, James Brophy, Stanley R. Church, Warren D'Apprix, Cecil S. Fowlston, Howard Gibbs, Stewart R. Jones, Carl W. Lind, Ivan H. Miller, John A. Stone, Warren Ryther, James F. Sears, Addison E. Smith, John Staruck, Robert Williams, C. E. Wood.

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Otego	Harold Skinner	Elmer Daois
Richfield Springs	James Hines	Frank Patterson
Roxbury	Roderick C. Dorrance	John C. Sweatman
South Kortright	Edward A. Burke	George Many
South Otselic	Charles T. Button	Clifton Bowers
Springfield	C. E. Wood	Harland Smith
Stamford	Paul F. Waterman	Russell Frazee
Unadilla	Gilson N. Slater	Clarence E. Russell

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4th	Delaware	Amenzo W. Merrill, Treadwell
1st	Otsego	Nathan C. Southworth, East Springfield
2nd	Otsego	Harold C. Tyson, Unadilla
3rd	Otsego	John E. Wilcox, Worcester
2nd	Delaware	H. Eugene Wieand, Walton
1st	Chenango	Ernest G. Youmans

Executive Committee

Edward A. Burke, Supervising Principal, South Kortright
Charles T. Button, Supervising Principal, South Otselic
Melvin C. Carpenter, District Superintendent, South Kortright
Stanley R. Church, Supervising Principal, Milford
Frank W. Cyr, Professor of Education, Teachers College, Columbia University, Executive Secretary
Gerald R. Firth, Director
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Edwin R. Tillapaugh, Supervising Principal, Downsville

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Harold E. Simmons, Liaison Officer*
Frank W. Cyr, Executive Secretary

* James J. Sampson, 1957–58

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